

April 13, 1983

Memo to File:

RE: Field Tour
Texas Gulf, Inc.
Cane Creek Mine
ACT/019/005
Grand and San Juan, Counties

On April 8, 1983 Division representative Susan Linner, Pam Grubaugh-Littig, Tom Portle and Tom Tetting visited the above-mentioned operation. They were accompanied by Clark H. Huff and R.E. MacAdams who represented Texas Gulf.

The purpose of the tour was to afford the technical review staff an opportunity to view the facility and obtain a working knowledge of the operation and any reclamation problems.

The mill site was not operating at the time of the tour. It operates seasonally to process stockpiled feedstock thus allowing more economic efficiency. Approximately 85 employees are currently active with perhaps another 6 - 10 being employed during periods of mill operation.

Solution mining has been employed since 1970 when the conventional workings were flooded with 750 million gallons of water. Brine flows to low points in the mine where it is brought to the surface (some 3000 feet) by using deepwell pumps. From that point solar ponds are used to concentrate K_2O . It is then harvested and slurried to the flotation plant. By-products include NaCl and KCl. These are transported to slurry tailings ponds. Some are then sold for road salt. This, however, is only a small portion of the total amount. Salt tailings areas may represent the greatest reclamation challenge.

Ponds are lined with polyvinyl chloride membranes. Self loading scrapers harvest the brine and are guided by laser beams which control cutting depth to preserve membrane integrity. During the tour a noteworthy problem was discussed. It seems that subsurface water migrates down from an adjoining cliff and accumulates below the membrane. This causes a "bubble" to form resulting in membrane ruptures during harvesting. Since the membranes are designed to preclude the possibility of salinity inputs into the Colorado River this situation may bear closer attention.

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Also, some evidence is present to suggest salt movement from the pond area may be occurring. This question arises due to the formation of salt "stalactites" on nearby cliffs.

All in-situ soils as well as soils from adjoining areas were utilized in pond development. The salinity of this material may be excessive with regard to reclamation capability.

From this cursory tour it appeared that all areas associated with the slurry pipeline were covered by catch ponds to protect the river against any pipeline ruptures.

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TLP/lm

cc: Jim Smith, DOGM
Tom Tetting, DOGM
Sue Linner, DOGM
Pam Grubaugh-Littig, DOGM
Wayne Hedberg, DOGM